

NETWORK SERVER BACKUP TAPE ROTATION, STORAGE, AND ARCHIVING

Purpose This Meteorology and Air Quality Group (MAQ) procedure describes the rotation, storage, and archiving of computer backup tapes for the MAQ servers located at TA-00, Bldg. 1331.

Scope This procedure applies to backups performed by both the HP Sure Store Dat 24X6 Autoloader and the HP Sure Store Ultrium Tape Autoloader on the group's network servers located at TA-00, Bldg. 1331.

**In this
Procedure**

Topic	See Page
General Information About This Procedure	2
Who Requires Training to This Procedure?	2
Backup Tape Rotation for Autoloaders	3
File Restoration	5
Archiving Backup Tapes	6
Records Resulting From this Procedure	7

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General information about this procedure

Attachments This procedure has no attachments.

History of revision This table lists the revision history and effective dates of this procedure.

Revision	Date	Description Of Changes
0	8/8/96	New document.
1	9/19/97	Title change, process revisions, and clarification.
2	11/23/99	Added new chapter for new HP autoloader.
3	2/20/01	Updated steps for new installations and hardware.
4	05/25/05	Updated steps for new tape backup hardware.

Who requires training to this procedure? The following personnel require training before implementing this procedure:

- Network Administrator
- Computer technicians
- MAQ personnel assigned to run backups

Training method The training method for this procedure is “**self-study**” (**reading**) and is documented in accordance with the procedure for training (MAQ-024).

Definitions specific to this procedure

Backup operator: An MAQ employee assigned the responsibility of maintaining a network server backup system.

Full backup: A backup operation in which all files on a drive are backed up, regardless of whether the file has changed since the last full backup.

Daily tape: A tape used to perform a full backup on Monday, Tuesday, Wednesday, or Thursday night.

Weekly tape: A tape used to perform a full backup on Friday.

References The following documents are referenced in this procedure:

- MAQ-Office, “General Office Safety, Security, and Computer Responsibilities for All Employees”
- MAQ-024, “Personnel Training”
- Veritas “Backup Exec” software manual

Backup Tape Rotation for Autoloaders

Background MAQ performs daily and weekly backups on all three servers located at TA-00, Bldg. 1331; on both Sure Store Dat Autoloader unit and the HP Sure Store Ultrium Tape Autoloader unit. Daily and weekly backups performed by MAQ are full backups. There are differences in the model, operation, and configuration of the tape drives, but the same 6-tape cartridge configuration and rotation schedule is used on all servers.

Initial backup tape setup When a new server backup system is started, the **backup operator** prepares five new tapes of the appropriate size and type for the tape backup unit. The daily tapes are re-used several times. The tape labeled “05”, representing Friday, is the initial weekly tape and will not be re-used. Electronically label the tapes as follows:

- On the HP Sure Store Ultrium Tape Autoloader, label tapes one through five. \\CLEAN\dd\mmm\slot number (example: CLEAN17May05).
- On the Sure Store Dat Autoloader, label one through five. \\HOT\dd\mmm\slot number (example: HOT17May05)

CAUTION: Do not place sticky labels on the tapes: the tape-handling mechanism can pull them off and jam the works.

Steps for Monday backup tape rotation

To maintain the backup tape rotation cycle, perform the following steps on **Monday** of every week:

NOTE: **Monday** means the first working day of the week. **Friday** means the last working day of the week.

Step	Action
1	Log in with an administrator account.
2	Open Veritas backup.exe. Check the Activity Log for errors found during previous week. Compare byte count, time, and job status for successful jobs.
3	Start Backup Exec. Determine the autoloader slot that was used for last Friday’s backup (it <i>should</i> be slot 5, but occasionally problems such as bad tapes will cause a different slot to be used): <ul style="list-style-type: none">• In the “Job Monitor” window, double-click on the backup job dated on the previous Friday. Click “Log File” and scroll down the log file to the line with “Media Slot:” and a number.

Steps continued on next page.

Backup Tape Rotation for Autoloaders, continued

Step	Action
4	<p>Eject the cartridge and remove the Friday tape from slot 5 (or whichever slot was determined in step 3). To do this:</p> <ul style="list-style-type: none"> On the HP Sure Store Ultrium Tape Autoloader: go to Devices ServerName Robotics Library right-click on HP1 and select “unlock” from the pop-up menu. The “Activity Monitor” tab label should briefly turn blue and then back to black. For Cleanair: Open the tape machine by pressing the 2nd button from the right on the front panel (labeled “Door”) and open the door. For Hotair: press Eject on tape machine. Remove the tape cartridge. Remove the Friday tape from slot #5. Toggle the locking switch on the tape to write-protect it.
5	<p>Label this tape with the name of the server and the date(s) of its (Friday) backup(s). Store it according to the steps in the chapter <i>Archiving backup tapes</i>.</p>
6	<p>The tape cartridge has slots for 6 tapes: Keep the special cleaning tape in slot #6.</p> <p>Remove the tape from slot #4 (or whichever slot is one number smaller than the slot where the Friday tape was) and move it to the now-empty next higher numbered slot (from which the Friday tape was removed). Similarly, move all the other tapes to the next higher-numbered slot.</p>
7	<p>Take a new tape and place it in slot #1 (Tape 01, Monday). The cartridge is ready to be loaded in the autoloader on this or a future Monday.</p> <p>If Monday was a holiday, leave slot #1 empty and begin labeling with slot #2.</p> <p>CAUTION: Do not place labels on the tapes: the tape-handling mechanism can pull them off and jam the works.</p>
8	<p>Insert refilled cartridge into autoloader:</p> <ul style="list-style-type: none"> Under Device Management tab, //servername/RoboticsLibraries/HP1/HP1/slots. Right click to re label media using the following Label on tapes one through five: \\servername\dd\mmm\slot number. (HOT17May05). <p>Important: Ensure “Allocated Date” fields are in time chronological sequence because this determines the order in which tapes are used.</p> <p>Note: Slot 06 Media Description is “Cleaning Media”.</p>
9	<p>Close Veritas backup.exe and log off.</p>
10	<p>Store tape 05 in the safe located in cube 1.</p>

File Restoration

Restoring files **NOTE:** The following is not fully documented in the program manual. When necessary to use the either autoloader to restore saved data files, the automated backup program must first be disabled and then reset after the restoration.

To restore backed up files, perform the following steps:

Step	Action
1	On either autoloader : in the program “Backup Exec,” go to the tab “Job Definitions,” select each entry (“Labs generated backup” and “Labs generated cleaning”), and delete them. On the large autoloader: unlock.
2	Go to the “Restore Selections” tab and find the tape volume number by the date the file was backed up. Find that tape and insert it into a cartridge and then into the tape drive. You may need to inventory the slot in order for the tape to be recognized.
3	Find the appropriate drive, folder, and file(s) to be restored, and follow the program instructions to restore the desired files.
4	After restoring files, remove the tape used for the restore, and replace the regular backup tapes. Re-inventory the tape if necessary to display the correct tape name. On either autoloader: reestablish the automatic backup routine by selecting “Tools” then “Low Administration Wizard.”

Archiving backup tapes

Storing backup tapes

Store the last backup tapes from each week of the month, usually the Friday tape, in the fire resistant safe in TA-00, Bldg. 1331, Rm. 100, cubicle 1.

Store the last 05 Friday backup tape of the month at TA-59, OH-1, Room 181 for one to two months.

Keep the other weekly tapes (that do not fall under the category of “last tape of the month”) in the fire resistant safe for no less than one year, but not more than two years. After this time, these tapes may be recycled for future backups.

Records resulting from this procedure

Records

The backup copies of the data (Note: the copies of the database are not considered records) are maintained by MAQ for a minimum of one month, but not more than two months, then the tapes may be recycled.

[Click here to record “self-study” training to this procedure.](#)

